

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

January 13, 2017

Mr. Dana Bayuk
Oregon Department of Environmental Quality
Northwest Region, Portland Office
Portland Harbor Section
700 NE Multnomah Street, #600
Portland, Oregon 97232

HAI Project No. 2708
DEQ ECSI File No. 84

**SUBJECT: Progress Report, NW Natural Site, 7900 NW St. Helens Avenue and
7200 NW Front Avenue, Portland, Oregon**

Mr. Bayuk:

Hahn and Associates, Inc. (HAI) has prepared this monthly Progress Report to summarize Remedial Investigation/Feasibility Study (RI/FS) and source control-related work activities conducted by NW Natural relating to historic manufactured gas plant (MGP) activities at the NW Natural Site during the month of December 2016. NW Natural is completing upland investigation and cleanup activities at the NW Natural Site under the Voluntary Agreement No. ECV-C-WMCVC-NWR-94-13 (Voluntary Agreement) between NW Natural and the Oregon Department of Environmental Quality (DEQ).

**1. ACTIONS TAKEN UNDER THE VOLUNTARY AGREEMENT DURING
THE PREVIOUS MONTH**

HAI field activities related to monitoring and maintenance of the dense non-aqueous phase liquid (DNAPL) extraction system at surficial fill well locations MW-6-32 and MW-13-30 occurred during December 2016. The DNAPL storage tank reached capacity during the preceding month with 492 gallons measured in the tank and therefore the system automatically shut-off. Scheduling of the product removal from this tank for re-refining will occur after profile renewal at the receiving facility.

Tasks related to maintenance of the HC&C system and the groundwater treatment system were conducted in December 2016, with the system operating under Phase 2 testing parameters since July 21, 2015. DEQ and EPA have concluded that the testing phases of the HC&C system are complete as of December 30, 2016 and that the system is in full long-term operational mode. No significant non-routine actions were completed in December.

A total of 10,520,807 gallons of water were treated in the on-site groundwater treatment plant and discharged during December 2016. Discharged water met all effluent criteria set by the facility's NPDES permit.

Baseline DNAPL removal as needed to maintain levels below the top of the well sumps was conducted by Anchor QEA during December 2016 in the following wells near the river shoreline.

- MW-34L
- MW-38U
- MW-PW-2L

- PW-2L
- PW-6U

Groundwater elevation measurements and DNAPL checks were conducted at NW Natural monitoring well locations at the Gasco and Siltronic properties on December 6, 2016 in accordance with the DEQ-approved groundwater monitoring schedule.

A stain of oil was noted on the end of the interface probe at fill WBZ well MW-1-22 during the DNAPL check activities conducted on December 6, 2016. No measurable product was detected. On December 19, 2016, HAI lowered a weighted bottom-filling bailer to the base of this well to better evaluate DNAPL presence. Approximately one-half inch of the check-valve tip at the base of the bailer had oil brown staining. No DNAPL was captured by the bailer.

2. ACTIONS SCHEDULED TO BE TAKEN IN THE NEXT MONTH

NW Natural and DEQ technical working group communications and meetings will occur as needed within the next month to discuss ongoing project tasks.

Preparation of the RI/RA Addendum for the northern portion of the Siltronic property will continue during the indicated timeframe.

The conditionally approved *Gasco Groundwater Modeling Report, NW Natural Gasco Site* will be revised in accordance with DEQ comments during this timeframe.

NW Natural hopes to receive DEQ's comments on the May 2016 *Gasco Uplands Data Gaps Investigation Work Plan* by early January in order to begin scheduling and planning field work in anticipation of incorporating data from the data gaps investigation into the Gasco Upland FS .

Observations of surface water overland flow will continue to be made in accordance with the *Stormwater Source Control Work Plan*.

DNAPL measurements at the MW-1-22 location will be conducted on a monthly basis until the next quarterly site-wide check occurs in March 2017.

3. LABORATORY TEST RESULTS RECEIVED DURING THE PREVIOUS MONTH

NW Natural receives test results on a regular basis as a result of routine monitoring related to groundwater quality or as specified by various permit requirements. Additionally, test results are periodically received through implementation of task-specific investigation activities resulting from agency-approved work plans. These data are provided to DEQ or the permitting authority (if different than DEQ) in accordance with previously-approved formats and schedules.

There were no test results received within the previous month that will not be reported in accordance with previously-approved formats and schedules.

4. PROBLEMS EXPERIENCED DURING THE PREVIOUS MONTH

There were no problems of significance experienced during the previous month.

Should you have any questions, please contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "Rob Ede", with a stylized flourish at the end.

Rob Ede, R.G.
Principal

robe@hahnenv.com

Attachment: November 2016 Communications and Submittals

Cc: Mr. Bob Wyatt, NW Natural (electronic only)
Ms. Patty Dost, Pearl Legal Group PC (electronic only)
Ms. Rachel Melissa, Pearl Legal Group PC (electronic only)
Ms. Sarah Riddle, Pearl Legal Group PC (electronic only)
Mr. Carl Stivers, Anchor QEA, L.L.C. (electronic only)
Mr. John Edwards, Anchor QEA, L.L.C. (electronic only)
Mr. Ben Hung, Anchor QEA, L.L.C. (electronic only)
Mr. Ryan Barth, Anchor QEA, L.L.C. (electronic only)
Ms. Halah Voges, Anchor QEA, L.L.C. (electronic only)
Ms. Jen Mott, Anchor QEA, L.L.C. (electronic only)
Mr. John Renda, Anchor QEA, L.L.C. (electronic only)
Mr. Tim Stone, Anchor QEA, L.L.C. (electronic only)
Mr. Todd Thornburg, Anchor QEA, L.L.C. (electronic only)
Mr. Chip Byrd, Severson Environmental Services, Inc. (electronic only)
Mr. Henning Larsen, DEQ NW Region (electronic only)
Mr. Keith Johnson, DEQ NW Region (electronic only)
Mr. Dan Hafley, DEQ NW Region (electronic only)
Ms. Jennifer Peterson, DEQ NW Region (electronic only)
Mr. Mike Poulsen, DEQ NW Region (electronic only)
Ms. Cindy Bartlett, Geosyntec Consultants, Inc. (electronic only)
Mr. Bruce Marvin, Geosyntec Consultants, Inc. (electronic only)
Mr. Vipul Srivastava, Geosyntec Consultants, Inc. (electronic only)
Mr. Myron Burr, Siltronic Corporation (electronic only)
Mr. James Peale, Maul Foster & Alongi, Inc. (electronic only)
Ms. Madi Novak, Maul Foster & Alongi, Inc. (electronic only)
Mr. Mike Murray, Maul Foster & Alongi, Inc. (electronic only)
Ms. Mary Benzinger, Maul Foster & Alongi, Inc. (electronic only)
Ms. Kelly Titkemeier, Maul Foster & Alongi, Inc. (electronic only)
Ms. Kristine Koch, Region 10 EPA (electronic only)
Mr. Sean Sheldrake, Region 10 EPA (electronic only)
Mr. Rene Fuentes, Region 10 EPA (electronic only)
Ms. Eva DeMaria, Region 10 EPA (electronic only)
Mr. Lance Peterson, CDM, Inc. (electronic only)

ATTACHMENT

COMMUNICATIONS AND SUBMITTALS – December 2016

In correspondence dated December 1, 2016 (Jen Mott to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided a draft agenda for a scheduled December 5, 2016 meeting to discuss transducer data collection and related calculations.

A meeting with representatives of DEQ and NW Natural was conducted on December 5, 2016 to discuss DEQ's comments on NW Natural's August 5, 2016 Transducer Data Evaluation Memorandum.

In correspondence dated December 6, 2016 (Rob Ede to Dana Bayuk), HAI, on behalf of NW Natural, transmitted a Scoping Memorandum for the pending Doane Creek Source Control Evaluation work.

In correspondence dated December 7, 2016 (Todd Thornburg to Dana Bayuk), Anchor QEA, on behalf of NW Natural, provided a draft agenda for a scheduled December 8, 2016 meeting to discuss the RI/RA Addendum for the Gasco OU.

In correspondence dated December 7, 2016 (Dana Bayuk to John Edwards), DEQ summarized their understanding of December 5, 2016 meeting discussions related to transducer data evaluations and error propagations.

A meeting with representatives of DEQ and NW Natural was conducted on December 8, 2016 to discuss the RI/RA Addendum for the Gasco OU.

In correspondence dated December 16, 2016 (John Edwards to Dana Bayuk), Anchor QEA provided a summary of NW Natural's understanding of agreements and clarifications regarding several discussion points from the December 5, 2016 transducer data meeting.

In correspondence dated December 16, 2016 (Todd Thornburg to Alex Liverman), Anchor QEA, on behalf of NW Natural, transmitted red-line revisions of the *Stormwater Source Control Work Plan – NW Natural Gasco Site*. The document was revised in accordance with DEQ's November 8, 2016 conditional approval comment letter.

In correspondence dated December 19, 2016 (Todd Thornburg to Dana Bayuk), as a follow-up to a phone conversation of the same date, Anchor QEA provided DEQ with information related to data contouring / sample location selection as presented within the *Gasco FS Data Gaps Investigation Work Plan*.

A December 19, 2016 teleconference was conducted with Todd Thornburg (Anchor QEA) and Dana Bayuk (DEQ) to discuss coordination, communication, and scheduling options as related to the RI/RA Addendum for the Gasco OU.

In correspondence dated December 21, 2016 (Dana Bayuk to John Edwards), DEQ provided additional clarifications and a reference related to the December 5, 2016 transducer data meeting in relation to Anchor QEA's December 16, 2016 e-mail correspondence (John Edwards to Dana Bayuk).

In correspondence dated December 23, 2016 (Todd Thornburg to Dana Bayuk), Anchor QEA transmitted NW Natural's extension request and proposal for completion of the Gasco RI//RA Addendum.

In correspondence dated December 23, 2016 (Jen Mott to Dana Bayuk), Anchor QEA, on behalf of NW Natural, transmitted three waste disposal profiles to DEQ for concurrence. The profiles were prepared by Severson Environmental Services, Inc. to describe containerized wastes generated by several different pre-treatment processes associated with the Groundwater Treatment Facility.

In correspondence dated December 30, 2016 (Dana Bayuk to Bob Wyatt), DEQ provided its determination that the Groundwater HC&C system is no longer in “testing phase” or “commissioning mode”. In the letter, DEQ finds that the status of the HC&C system shall be considered “operational mode”. The correspondence also provides revised reporting timeframes and references anticipated discussions with NW Natural representatives related to system reporting activities.

In correspondence dated December 30, 2016 (Dana Bayuk to Bob Wyatt), DEQ provided conditional approval of the *Draft Gasco Groundwater Modeling Report, NW Natural Gasco Site*, dated October 14, 2016, requesting that a revised Model Report, incorporating regulatory comments, be submitted on or before January 31, 2017.